



# Critical Infrastructure Resilience Institute (CIRI)

A Nationwide Consortium Led by University of Illinois Urbana-Champaign

## A DHS Center of Excellence

*From natural disasters to deliberate attacks by hostile entities, critical infrastructure systems face a myriad of challenges. CIRI's interdisciplinary team delivers knowledge, tools, technologies, and solutions to the businesses and public entities that own and operate critical systems. CIRI's research and technology transition outputs are used by those owners and operators to enhance the security and resilience of our nation's critical infrastructure. CIRI's education and workforce development initiatives are preparing the nation's workforce for the challenges of today and tomorrow.*

## Research and Education Capabilities

- Building the business case for infrastructure development
- Informing the policy and regulatory environment
- Developing and deploying new technologies and solutions
- Education and training for the current and future homeland security workforce

## About CIRI

<b>LAUNCH</b>	2015
<b>PARTNERS</b>	More than 26 university, non-profit, private industry, and national laboratory partners
<b>EXPERTISE</b>	Business, computer science, data analytics, engineering, political science, public policy, and urban planning
<b>DHS ALIGNMENT</b>	Cybersecurity and Infrastructure Security Agency (CISA), Department of Transportation (DOT), Federal Emergency Management Agency (FEMA), Federal Law Enforcement Training Center (FLETC), DHS Science and Technology Directorate (S&T), U.S. Coast Guard (USCG)

## Feedback from Our Partners

*"CISA is the operational lead for federal cybersecurity and the national coordinator for critical infrastructure security and resilience. We lead the national effort to understand, manage, and reduce risk to our cyber and physical infrastructure. Through our collaboration and partnership with CIRI and their world class researchers and educators, we are able provide a more secure and resilient critical infrastructure for the American people."*

**David J. Nolan**, Emerging and Advanced Technology Branch Chief, Emergency Communications Division, CISA

## University Partners

California State University - Los Angeles\*

Carleton University

Jackson State University\*

Mercy University\*

New York University

Northeastern University

Old Dominion University\*

Stanford University

State University of New York - Binghamton

Tennessee State University\*

Texas A&M University\*

Texas Southern University\*

Texas Tech University

University of California - San Diego\*

University of Colorado - Boulder

University of Louisville\*

University of Michigan

University of Pennsylvania

University of Southern California

University of Tennessee, Knoxville

University of Washington

\*Minority Serving Institutions (MSI)

## Enterprise Partners

2wav, Inc.

Aegis Global Enterprises

Endicott Consulting, Inc.

Georgia Institute of Technology

Heartland Science & Technology

Group Karthik Consulting, LLC

Pacific Northwest National Laboratory

Resilient Solutions 21, LLC

Synclesis, Inc.



For a complete list of partners and more information, please visit [www.ciri.illinois.edu](http://www.ciri.illinois.edu)

For more information on DHS Centers of Excellence, please visit [www.dhs.gov/science-and-technology/centers-excellence](http://www.dhs.gov/science-and-technology/centers-excellence)



## Impacts



### Advancing the Interoperability and Security of NG911

Next Generation 911 systems will support many important capabilities that will significantly enhance the effectiveness of emergency response services across the country. As these next-generation systems from multiple vendors are acquired and deployed, it is critical that they provide seamless interoperability from the emergency caller all the way to the emergency responder. CIRI researchers have created an NG911 testbed that is fully capable of simulating NG911 services and have created testing requirements to support the development and deployment of a sustainable testing and certification program that will assure the end-to-end interoperability of NG911 systems and components.



### Enhancing Cybersecurity Education across the Nation

Our nation suffers from a critical shortage of educated and trained cybersecurity professionals while it faces increasing threats from sophisticated, well-financed, and well-armed cyber adversaries including nation-states. CIRI and partner institutions are addressing these challenges by developing modern cybersecurity curricula for delivery through a nationwide network of academic institutions and training providers.



### Facilitating Standardized Cyber-Risk Management Processes

Companies of all sizes across various sectors are enhancing their cyber security through adoption and implementation of standardized cyber risk management processes such as the NIST Cyber Security Framework (CSF), which is rapidly becoming an international standard. CIRI has developed the Cyber Secure Dashboard, a software application that simplifies conformance to the CSF, facilitating wide-scale adoption of the standard by businesses of all sizes and sectors. CIRI is also creating new CSF profiles for public safety answering points (PSAPs) and for wastewater treatment facilities to improve the cyber resilience of these critical infrastructure sectors.



### Advancing Research through Collaboration with MSIs

CIRI annually supports Summer Research Teams (SRTs) from Minority Serving Institutions (MSIs) from around the country. During 2024, CIRI supported four teams, including faculty and students from Mercy University, Texas Southern University, California State University - Los Angeles, and Jackson State University. The CIRI SRTs presented their summer work in a concluding virtual summer research workshop.